SEQUENCE LISTING

<110> Francis, Kevin P.
      Contag, Pamela R.
      Joh, Danny J.

<120> LUCIFERASE EXPRESSION CASSETTES AND METHODS OF USE

<130> 9400-0006

<140> US/09/657,289
<141> 2000-09-07

<160> 26

<170> PatentIn Ver. 2.0

<210> 1
<211> 6
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Gram-positive
      ribosome binding site

<400> 1
aggagg   6

<210> 2
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
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<210> 3
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<220>
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<210> 4
<211> 39
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer XBF

<400> 4
gggaattctc gaggaggaga gaaagaaatg aaatttgga   39

<210> 5
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer XBR

<400> 5
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<210> 6
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
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<400> 6
gggaattctc gaggaggatg gcaaatatga ctaa   34

<210> 7
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer XCR

<400> 7
ggcggatccg tcgacttatg ggacaaatac aaggaac   37

<210> 8
<211> 37
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer XDF

<400> 8
gggaattctc gaggaggagt aaaagtatgg aaaatga   37

<210> 9
<211> 37

2

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer XDR

<400> 9
ggcggatccg tcgacttaag acagagaaat tgcttga   37

<210> 10
<211> 39
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer XEF

<400> 10
gggaattctc gaggaggaaa acaggtatga cttcatatg   39

<210> 11
<211> 38
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer XER

<400> 11
ggcggatccg tcgacttaac tatcaaacgc ttcggtta   38

<210> 12
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: LUXA-REV

<400> 12
ccacactcct cagagatgcg   20

<210> 13
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: BamH I
      recognition sequence

<400> 13
ggatcc   6

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<210> 14
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: vector
      sequence

<400> 14
ggatcctgca gatgaagcaa gaggaggact ctctatg                          37


<210> 15
<211> 645
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pMK4 luxABCDE
      Sa1

<400> 15
atttatctaa agatgagatt aagccaatag aacgtcatta gcaaaataaa ttatattgcg 60
tcctacaagc aagttcatgc ttatgtttgt aggggggttat tgtggagaat aaaattattt 120
ccaatagaga agggatggta atcattttat agtgaaatat tatgaaattg taataattta 180
gatattgtaa aatctaataa gttgtaataa ttttaagggg taattataaa atttgatgat 240
acagtatatg attttttttgt aatcataatg tcatcaaaca tcaacctatt atacataata 300
aaatcgtata atgatgtagt attcataaat tcggataaaa gaatgttagg aaagttaagc 360
aagaggagga ttttaaagtg caaaaaaaag taattgcagc tattattggg acaagcgcga 420
ttagcgctgt tgcggcaact caagcaaatg cggctacaac tcacacagta aaaccgggtg 480
aatcagtgtg ggcaatttca aataagtatg ggatttcgat tgctaaatta aagtcattaa 540
acaatttaac atctaatcta attttcccaa accaagtact aaaagtatct ggctcaagta 600
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<210> 16
<211> 671
<212> DNA
<213> Artificial Sequence

<220>
<221> base_polymorphism
<222> 26
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<220>
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<222> 79
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<223> Description of Artificial Sequence: pMK4 luxABCDE
      Sa2
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4

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<400> 16
aaaaaatgag gggtgagacg tgaaantaaa gaaagataac gtagagaagc aatcagccac 60
caaattgata gcaatcccnt tcatcacaga ccatgaacta agcgacttat ttcaaagtga 120
gtatacaaac aattcgttta gatcgcactt atttaaacat accagaatta agaagcgtat 180
taaattagtt gctgaaaaga attatgacca aataagttct attgaagaac aagaatttat 240
tggtgatttg attcaagtca atccaaatgt taaagcgcaa tcaattttag atattacatc 300
ggattctgtt tttcataaaa ctggaattgc gcgtggtcat gtgctgtttg ctcaggcaaa 360
ttcgttatgt gttgcgctaa ttaagcaacc aacagtttta actcatgaga gtagcattca 420
atttattgaa aaagtaaaat taaatgatac ggtaagagca gaagcacgag ttgtaaatca 480
aactgcaaaa cattattacg tcgaagtaaa gtcatatgtt aaacatacat tagttttcaa 540
aggaaatttt aaaatgtttt atgataagcg aggataaaat tatggttaaa ttagcaattg 600
atatgatggg tggcgacaat gcgcctgata tcgtattaga agccgtacaa aaggctgttg 660
aagactttaa a                                                      671

<210> 17
<211> 623
<212> DNA
<213> Artificial Sequence

<220>
<221> base_polymorphism
<222> 19
<223> /note = "'n' represents an a or g or t or c polymorphism at this
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<220>
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<222> 32
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
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<222> 37
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
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<222> 48
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
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<222> 85
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<221> base_polymorphism
<222> 103
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position
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<220>
<221> base_polymorphism
<222> 154
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>
<223> Description of Artificial Sequence: pMK4 luxABCDE
      Sa3

<400> 17
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gatgggtaag aagaaaatnc ggcatcaggg gncattngcc attcaggntg ggaactgttg 60
gaagggcgtc gggcggcctt ttcgntattc gcagctgcga aangggatgt gctgaaggcg 120
attaagttgg gtaacgccag ggtttcccag tcangcgttg taaacggcgg ccagtgaatt 180
cccggggatc aagccgttta agtattacga ccagtttata tcattcatgg taaaggacag 240
ggccttcaaa aaggtgtaca acaacatttg aaaagcataa agtgttagtg acttagaggt 300
ggtatgccaa ggaaggtgga tttggcgtta ccgttgcaac actaaaataa attataanttt 360
gataaattaa atagctgcag ttaaaataat gtaaagcaac aagaatacat ttcaaacatg 420
ttatttgaaa taagcataaa aattgagcaa atagaaatac atgaagcatg ttatctgata 480
taatttgaac atcataataa taattaagga ggattggcat ttatggcaat cgtaaaagta 540
acagatgcag attttgattc aaaagtagaa tctggtgtac aactagtaga tttttgggca 600
acatggtgtg gtccatgtaa aat                                     623
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<210> 18
<211> 671
<212> DNA
<213> Artificial Sequence

<220>
<221> base_polymorphism
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<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>
<223> Description of Artificial Sequence: pMK4 luxABCDE
      Sa4

<400> 18
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gatgtatatt cacggggcac atgctgccga aaagcatcac cattaggtgc aatgtcatta 60
ctattgggac ggtttttata ttttattgct actcaaggtt ttgtaaatat gcaattaatc 120
ggtgcgatta tctttgtatt aattacaggt cctctttttca agtcatatga ttatgaaagc 180
agcatataat attaaaacgc cttatactaa aaagactaaa gcgatgaaat ttcggaagac 240
ttaaaagcnc aaaattgtag attatataac aaaatcatga atataaatca acaacaaaca 300
gcagtaagat gattccaaat taggaatgat tttactgctg ttttcttttg acattgttac 360
ctcttttttca atgatttttt ctttgactac agattcgccc tatctacata tatctcttta 420
atttaattgc ctttcatgtc gttatgtatt atgataataa taattataaa tcgtaacgat 480
tacgttttaa aaagagagag gttttattat gcattggaca attatcggcg gtggcataca 540
gggaactgca atcgcacaaa aactattatc aagcggatta acaacagacc gattaacaat 600
cattgacccca cacgaaactt tttgccaaag gtttaactca tatacaaatc gaatagaaat 660
gccttatttta a                                                  671
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<210> 19
<211> 650

<212> DNA
<213> Artificial Sequence

<220>
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<222> 1
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>
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<222> 7
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>
<221> base_polymorphism
<222> 8
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>
<221> base_polymorphism
<222> 34
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>
<221> base_polymorphism
<222> 113
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>
<221> base_polymorphism
<222> 118
<223> /note = "'n' represents an a or g or t or c polymorphism at this position

<220>
<223> Description of Artificial Sequence: pMK4 luxABCDE
      Sa5

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aacggtatag agcttagtat aaaattttcg gacaataaaa taaatacggg ttnaaccnaa 120
ttttaacggg aaagcacttc agaatatggt gtgtttgatc aagaataaaa ttaatgatga 180
aaatttaacg gagaatagtg tatattgagt agatcaagaa taaaaagata attctactat 240
tgttgtgaag gcaaataagt agaagatttt aagtgtaatt tctggtgatt taaataataa 300
tataaatgga agtactgata taaaactttt taacctacta gattcttata atttgctttc 360
cattttatga cgattttttac tcaattgagt gatagaatca aaaaagccat ctcaaaaatt 420
aatcaagcaa acaacattcc aaacaatgct cgcaaatcac caatgtatca ctctccaatt 480
acgtaactat gatttaattt aagcatagtt attgaggttt tgtgatatat agtataaaat 540
taatgagaat taaatttaat aatgtaaaat tcatcttcgg ggtcgggtgt aattcccaac 600

cggcagtaaa taaagcctgc gacctgctag tatgtatcat attagtggct   650

<210> 20
<211> 677
<212> DNA
<213> Artificial Sequence

<220>
<221> base_polymorphism
<222> 19
<223> /note = "'n' represents an a or g or t or c polymorphism at this
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<220>
<221> base_polymorphism
<222> 66
<223> /note = "'n' represents an a or g or t or c polymorphism at this
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<220>
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<222> 97
<223> /note = "'n' represents an a or g or t or c polymorphism at this
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<220>
<221> base_polymorphism
<222> 99
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<221> base_polymorphism
<222> 119
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<223> Description of Artificial Sequence: pMK4 luxABCDE
      Sa6

<400> 20
cggaagaacg ctttgaagnt taagctaatt acatctcatc atatgcacgg agatccttaa 60
atgccnaatt gaaagatatt tatatgaatc atcgagncng tcttgatgta gctattgcna 120
gcagatgata tttgtccagc aataactaat ggggaacaag tgaaaggcct ttacctttat 180
ggtccatttg ggcaggtaaa tcttttattc taggtgcaat tgcggaatca gctcaaatct 240
aagaaggtac gttcgacaat tatttattta ccgggaattt attagaacat taaaaggtgg 300
ctttaaagat ggttcttttg aaaagaaatt acatcgcgta agagaagcaa acattttaat 360
gcttgatgat attggggctg aagaagtgac tccatgggtg agagatgagg taattggacc 420
tttgctacat tatcgaatgg ttcatgaatt accaacattc tttagttcta attttgacta 480
tagtgaattg gaacatcatt tagcgatgac tcgtgatggt gaagagaaga ctaaagcagc 540
acgtattatt gaacgtgtca aatctttgtc aacaccatac tttttatcag gagaaaattt 600
cagaaacaat tgaattttaa aatgattggt gtataatgaa tacaaatcta aatcgtttaa 660
atgattgaag acaagat   677

8

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<210> 21
<211> 622
<212> DNA
<213> Artificial Sequence

<220>
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<222> 7
<223> /note = "'n' represents an a or g or t or c polymorphism at this
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<220>
<221> base_polymorphism
<222> 33
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<221> base_polymorphism
<222> 97
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<221> base_polymorphism
<222> 126
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<223> Description of Artificial Sequence: pDL289
      luxABCDE Sp1

<400> 21
aggacgntag gacgtgacga gccgaaaggc ttnagcgttc gagccgacac ggacaaagga 60
cgccgccctt ggttacttgt tgtcaattag accatgnaat aaagtaagcg gacatggtat 120
aatagntagg tcgcaacgtt ctttcgctaa gttacgaact tagattggag gtgagcgccc 180
aatacgcaaa ccgcctctcc ccgcgcgttg ccgattcatt aatgcagctg gcacgacagg 240
tttcccgact ggaaagcggg cagtgagcgc aacgcaatta atgtgagtta gctcactcat 300
taggcacccc aggctttaca ctttatgctt ccggctcgta tgttgtgtgg aattgtgagc 360
ggataacaat ttcacacagg aaacagctat gaccatgatt acgccaagct atttaggtga 420
cactatagaa tactcaagct atgcatccaa cgcgttggga gctctccgga tcaggtcatt 480
cgagttaccg atttatcaca tagatgatat ggtaagattc agttagaaga aagagtcaca 540
aacacacttt gtggcttttt tatttccata aaaatggtaa aatagtagga gtagaaatgg 600
agttcgagac atgaaagtaa ta                                          622

<210> 22
<211> 610
<212> DNA
<213> Artificial Sequence

<220>
<221> base_polymorphism
<222> 119
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<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<223> Description of Artificial Sequence: pDL289
      luxABCDE Sp5

<400> 22
agacaaagaa cgtccgccct tggtacttgt tgtcaaatta gaccatggaa taaagtaagc 60
ggacatggta taatagctag gtcgcaacgt tctttcgcta agttacgaac ttagattgna 120
ggtgagcgcc caatacgcaa accgcctctc cccgcgcgtt ggccgattca ttaatgcagc 180
tggcacgaca ggtttcccga ctggaaagcg ggcagtgagc gcaacgcaat taatgtgagt 240
tagctcactc attaggcacc ccaggcttta cactttatgc ttccggctcg tatgttgtgt 300
ggaattgtga gcggataaca atttcacaca ggaaacagct atgaccatga ttacgccaag 360
ctatttaggt gacactatag aatactcaag ctatgcatcc aacgcgttgg gagctctccg 420
gatcgtctgc caggttcagc aacacgccca catccgggcg caagtggctg gaccaatgca 480
actggaaaga agagagctcg gcgcagagaa cgtcgaggcg aggggtggcc gtgagggcgt 540
cgaaaagcga aacgccgata ttgcccaccg ccagtgcgcg cttgccggtg cgcttggcat 600
ctgcctgcat   610

<210> 23
<211> 626
<212> DNA
<213> Artificial Sequence

<220>
<221> base_polymorphism
<222> 12
<223> /note = "'n' represents an a or g or t or c polymorphism at this
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<220>
<223> Description of Artificial Sequence: pDL289
      luxABCDE Sp6

<400> 23
atgcttccgg gntcgtatgt tgtgtggaat tgtgagcgga ataccaattt cacacaggaa 60
acagctatga ccatgattac gccaagctta tttaggtgac actatagaat actcaagcta 120
tgcatccaac gcgttgggag ctctccggat caaaatgaca atcggcagca tgtgcgggat 180
ggattatgcg agtcggacat cttgcctagg acgcgcccca actgggagca gcccttcatc 240
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cacatcttct tgcgggcaaa gataccggca ataccgagga tgaggaccac tagcgagata 360
aggaaaggaa cgttgagccc gtgccagagg gcaaggtgcg aatgatgctc caatcccacg 420
gcagccactg catcatcgat cggggcatca aagagcccga gcacaaatac cagcggcaga 480
gacataaagc ccggcaaagc tgcaggtagc cacagcgaca ctggtgcttc atggacatct 540
cccatgtcgc gaggtccgtc aaagaaggcg ccgaagacaa tctttgcgga gtaagtaaag 600
gtgaagaacg caccgatacc ggcaac   626

<210> 24
<211> 607
<212> DNA
<213> Artificial Sequence

<220>

10

<223> Description of Artificial Sequence: pDL289
      luxABCDE Sp9

<400> 24
gcaaggcctt gagtagcttt atccagactg aaggcccgct atctttggaa ggcaggatat 60
aaaagaagat tctgttgcag agcgggcgga acgagtaggc tatgtgctgc aaaatcccaa 120
tcaaatgatt tcaaccaata tgatttttga tgaggtggct ctgggactcc gtttgcgagg 180
tgtggacgag caggaaattg aaacgagagt ctatgaaacc ttgaaaatct gtggtctcta 240
tgaattccgt aattggccca tttctgccct gtcatttggt cagaaaaaac gtgtgactat 300
tgcctcaatt ttggtcttag gcgctgaaat tatcctccta gatgaaccga ctgcgggtca 360
agaccagaag aactatactg agattatgga atttctcgaa gaactgcatc aacaagggca 420
taccattgtc atgattaccc atgatatgca attgatgctg gattattcag atcgagccct 480
tgtcatggtg gatggggaat tgattgctga tactgatcca gctagtctgt tgagcaatcc 540
tgagctgtta gtaaaagcca acctaaaaga gacttctatc ttcaacttgg ctaagaaact 600
cgacgtg   607

<210> 25
<211> 616
<212> DNA
<213> Artificial Sequence

<220>
<221> base_polymorphism
<222> 91
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<223> Description of Artificial Sequence: pDL289
      luxABCDE Sp16

<400> 25
tgaatgttcg gtacgcacca gtcttcgtct gctctcaagg acgtggacat tcatgatgga 60
tttgccacta cgaagatgac ctaagtcagt ncaagaagaa attattaaga aaaataaagg 120
tgaagactta atccgtcctc actctagaag gaagtcactt agtggcttcc ttttgtcttt 180
agaaaatacc tctaaatatg gtaaaatagt agaagaataa tgtgaggaaa atgaatgtca 240
aatagttttg aaattttgat gaatcaattg gggatgcctg ctgaaatgag acaggctcct 300
gctttagcac aggccaatat tgagcgagtt gtggttcata aaattagtaa ggtatgggag 360
tttcatttcg tattttctaa tattttaccg attgaaatct ttttagaatt aaagaaaggt 420
ttgagcgaag aattttctaa gacaggcaat aaagctgttt ttgaaattaa ggctcggtct 480
caagaatttt caaatcagct cttgcagtcc tactataggg aggctttctc tgaaggtcca 540
tgtgctagtc aaggttttaa gtccctttat caaaatttgc aagttcgtgc tgagggtaat 600
cagctattta ttgaag   616

<210> 26
<211> 609
<212> DNA
<213> Artificial Sequence

<220>
<221> base_polymorphism
<222> 36
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

11

<220>
<221> base_polymorphism
<222> 76
<223> /note = "'n' represents an a or g or t or c polymorphism at this
position

<220>
<223> Description of Artificial Sequence: pDL289
      luxABCDE Sp17

<400> 26
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tgaaaaagca gggctatgtg aagcgctggc gccgancccc gatgatgagc gtcgcaccct 60
cgctgccctg actgcngacg gcgcctccct ccgcacccgc gccgaatgca tccccgaagc 120
catggccaag gcctataagg aggtaggcct cgaccttgcc gagttcaaga aatcgctgac 180
atcctggccg gcgtgcctgt ggacgtggag ctgccgtggc catctgggga tgactttgtg 240
ggttaaagtg tggccttcat atagcagatg aggacggcta tactggctta agagttttga 300
ctctatttac gtaaaatttt ttcacactat gagaggaggg gccatggcta cagcagtaga 360
cgtcgcgcag gttatctaca acaaactggg gtgggtcgat gcgtggaagc tggagaagct 420
tacgtattac tgccaagcgt ggagcctggg ctggtacggg cgacctcttg tctcgaatga 480
atttcaggcg tggaaggacg gtccggttga acccgacctc tatcgcgaga ataaatatca 540
acgctccgag aaatcctcca cggtgttacc gggagctgat gtagaggcta tagggggagga 600
agccgaaaa                                                       609
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12